

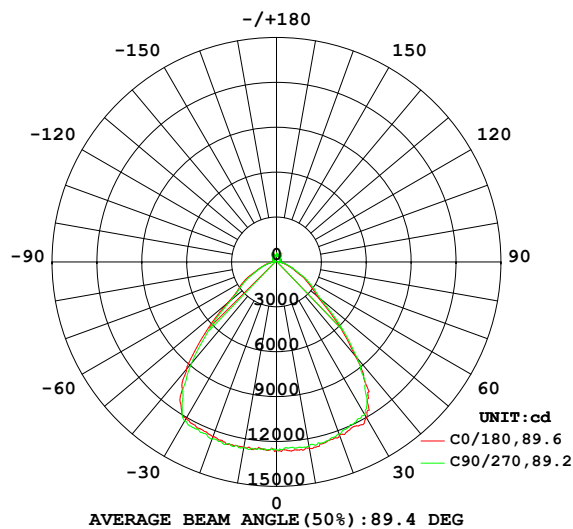
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

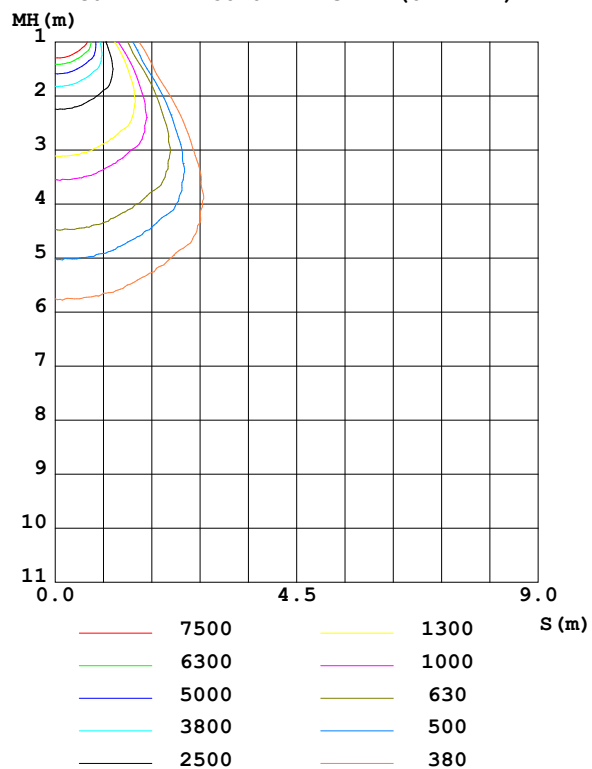
Test:U:229.8V I:0.660A P:148.8W PF:0.982 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:29001.4x1 lm		
NAME: HB68-150H-5070-H00198+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 194.85 lm/W			
MODEL	/	I <sub>max</sub> (cd)	12808	S/MH (C0/180)	1.31
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.28
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	29001	η UP, DN (C0-180)	3.2, 46.0
NOMINAL FLUX (lm)	29001.4	CIE CLASS	DIRECT	η UP, DN (C180-360)	3.2, 47.5
LAMPS INSIDE	1	η up (%)	6.4	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	η down (%)	93.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZK  
Test Date: 2023-07-17

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1263	1262	1252	1250	1260	1268	1260	1269	0- 10	1202	1202	4.14,4.14
20	1231	1233	1226	1224	1245	1252	1259	1250	10- 20	3552	4754	16.4,16.4
30	1206	1171	1181	1195	1207	1233	1226	1236	20- 30	5667	10421	35.9,35.9
40	817.8	810.4	839.8	887.4	937.6	912.8	882.2	875.8	30- 40	6666	17086	58.9,58.9
50	355.0	354.3	384.8	391.9	429.2	422.0	398.4	367.8	40- 50	4788	21874	75.4,75.4
60	208.4	211.0	225.7	221.5	241.5	235.9	221.6	217.9	50- 60	2635	24509	84.5,84.5
70	95.92	95.75	106.7	107.3	114.6	114.6	108.9	105.4	60- 70	1539	26048	89.8,89.8
80	41.75	41.74	46.68	48.02	51.87	50.95	47.17	44.78	70- 80	782.0	26830	92.5,92.5
90	13.22	13.50	14.41	15.45	16.18	15.72	14.61	14.13	80- 90	304.7	27135	93.6,93.6
100	16.71	16.52	16.77	16.16	15.03	14.93	15.24	16.86	90-100	147.4	27282	94.1,94.1
110	23.25	22.61	22.74	22.57	21.98	22.04	22.20	23.51	100-110	206.0	27488	94.8,94.8
120	26.59	25.91	26.16	26.06	25.57	25.60	26.34	27.74	110-120	245.2	27733	95.6,95.6
130	29.30	28.61	29.27	28.61	27.49	27.46	28.87	30.09	120-130	244.9	27978	96.5,96.5
140	40.18	38.34	37.86	35.50	34.43	34.94	38.57	40.64	130-140	246.7	28225	97.3,97.3
150	63.42	62.06	62.58	60.36	58.60	60.80	64.63	67.57	140-150	315.7	28541	98.4,98.4
160	51.47	55.47	57.86	60.01	57.53	56.12	54.45	55.07	150-160	291.2	28832	99.4,99.4
170	38.65	42.66	41.53	42.47	40.01	38.17	36.65	37.21	160-170	130.1	28962	99.9,99.9
180	55.31	62.63	53.88	59.79	55.39	62.58	53.83	59.77	170-180	39.44	29001	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 19845 lm

%lum = 68.4%

%lamp = 68.4%

Conical surface Flux(120deg): 24509 lm

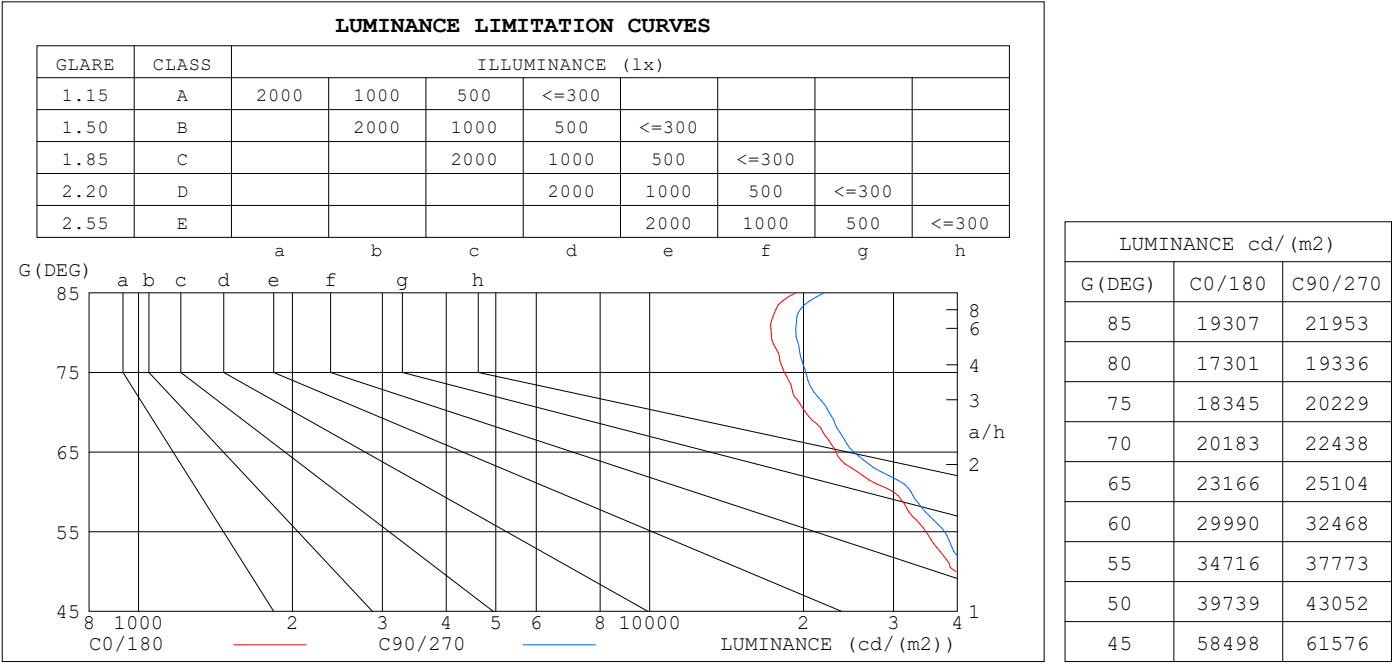
%lum = 84.5%

%lamp = 84.5%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

LUMINANCE LIMITATION CURVES



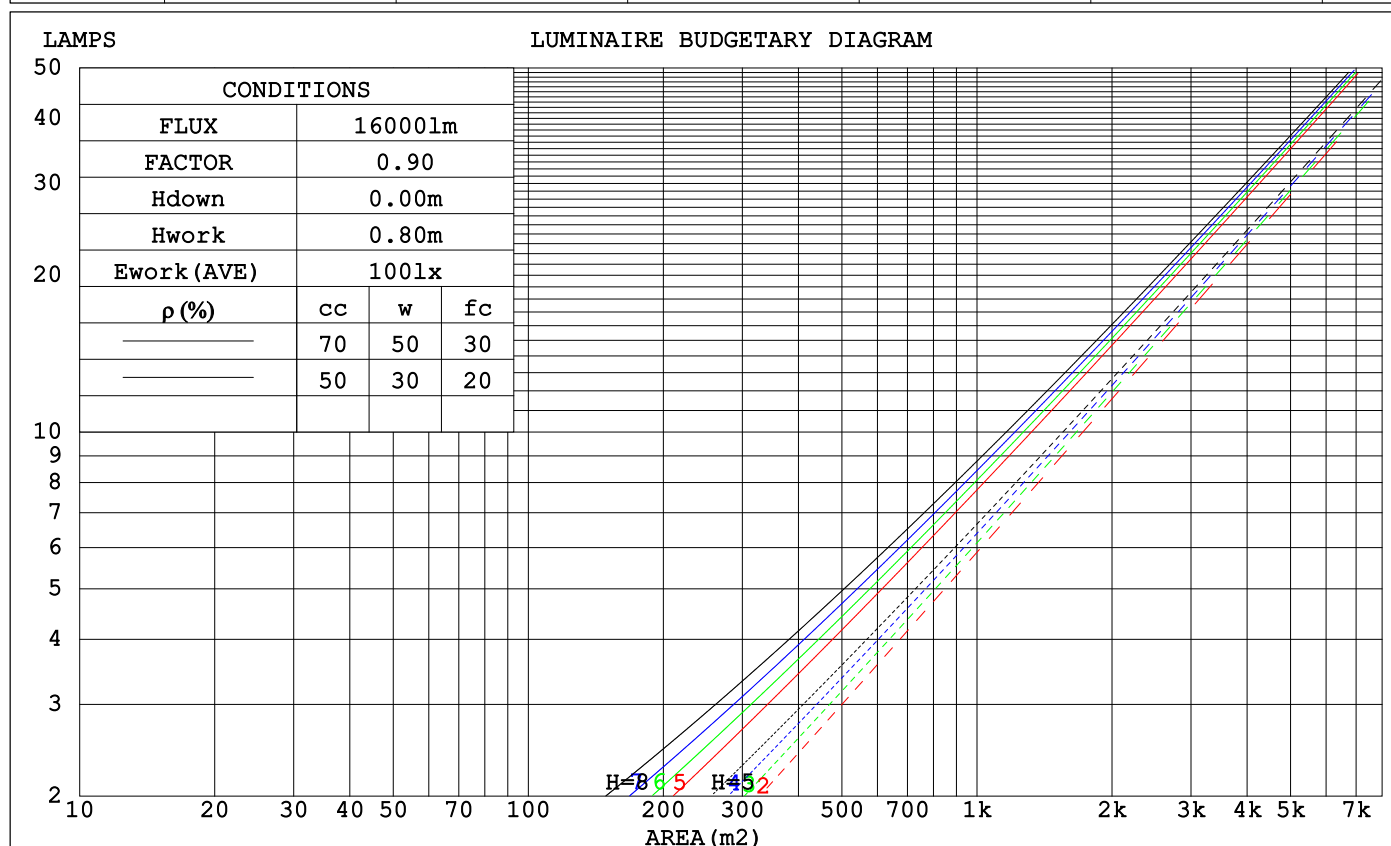
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-07-17

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.96	.96	.96	.94
1.0	1.05	1.02	.99	1.02	.99	.96	.97	.95	.92	.92	.90	.88	.88	.86	.85	.82
2.0	.94	.89	.84	.92	.87	.82	.87	.83	.79	.83	.80	.77	.80	.77	.74	.72
3.0	.85	.78	.72	.83	.76	.71	.79	.74	.69	.75	.71	.67	.72	.69	.65	.63
4.0	.76	.69	.63	.75	.68	.62	.71	.66	.61	.69	.63	.59	.66	.62	.58	.56
5.0	.69	.61	.56	.68	.61	.55	.65	.59	.54	.63	.57	.53	.60	.55	.52	.50
6.0	.63	.55	.50	.62	.54	.49	.59	.53	.48	.57	.52	.47	.55	.50	.46	.44
7.0	.58	.50	.44	.57	.49	.44	.55	.48	.43	.53	.47	.43	.51	.46	.42	.40
8.0	.53	.45	.40	.52	.45	.40	.50	.44	.39	.49	.43	.39	.47	.42	.38	.36
9.0	.49	.41	.36	.48	.41	.36	.47	.40	.36	.45	.39	.35	.44	.38	.35	.33
10.0	.45	.38	.33	.45	.38	.33	.43	.37	.33	.42	.36	.32	.41	.36	.32	.30



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## WEC AND CCEC

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.253	.144	.046	.244	.139	.044	.227	.130	.042	.212	.122	.039	.198	.115	.037		
2.0	.240	.132	.040	.233	.128	.039	.218	.121	.038	.205	.115	.036	.192	.109	.034		
3.0	.226	.120	.036	.219	.117	.035	.206	.112	.034	.194	.106	.033	.183	.101	.031		
4.0	.212	.110	.032	.206	.108	.032	.195	.103	.031	.184	.099	.030	.174	.094	.029		
5.0	.199	.102	.029	.194	.099	.029	.183	.095	.028	.174	.092	.027	.165	.088	.026		
6.0	.187	.094	.027	.182	.092	.027	.173	.089	.026	.164	.085	.025	.156	.082	.024		
7.0	.176	.087	.025	.172	.086	.024	.163	.083	.024	.156	.080	.023	.148	.077	.023		
8.0	.167	.081	.023	.162	.080	.023	.155	.077	.022	.147	.075	.022	.141	.072	.021		
9.0	.158	.076	.021	.154	.075	.021	.147	.073	.021	.140	.070	.020	.134	.068	.020		
10.0	.149	.072	.020	.146	.070	.020	.139	.068	.019	.133	.066	.019	.128	.064	.018		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.240	.240	.240	.205	.205	.205	.140	.140	.140	.080	.080	.080	.026	.026	.026	
1.0	.226	.206	.188	.193	.177	.162	.132	.122	.112	.076	.070	.065	.024	.023	.021	
2.0	.215	.182	.154	.184	.157	.133	.126	.108	.093	.073	.063	.054	.023	.020	.018	
3.0	.206	.164	.131	.177	.142	.113	.121	.098	.079	.070	.057	.047	.023	.019	.015	
4.0	.198	.150	.114	.170	.130	.099	.117	.091	.070	.068	.053	.041	.022	.017	.014	
5.0	.191	.140	.102	.164	.121	.089	.113	.084	.063	.065	.050	.037	.021	.016	.012	
6.0	.184	.131	.094	.158	.114	.081	.109	.080	.058	.063	.047	.034	.020	.015	.011	
7.0	.178	.124	.087	.153	.108	.076	.106	.076	.054	.061	.045	.032	.020	.015	.011	
8.0	.172	.119	.082	.148	.103	.071	.102	.072	.051	.060	.043	.030	.019	.014	.010	
9.0	.166	.114	.078	.143	.099	.068	.099	.069	.048	.058	.041	.029	.019	.013	.010	
10.0	.161	.109	.075	.139	.095	.065	.097	.067	.046	.056	.040	.028	.018	.013	.009	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4556]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## UGR(Unified Glare Rating) Table

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	21.8	23.1	22.3	23.6	24.0	22.5	23.7	22.9	24.2	24.7
3H	22.9	24.0	23.4	24.5	25.0	23.5	24.6	24.0	25.1	25.6
4H	23.3	24.3	23.8	24.8	25.4	23.9	25.0	24.4	25.4	26.0
6H	23.6	24.6	24.1	25.1	25.6	24.2	25.2	24.7	25.7	26.2
8H	23.7	24.6	24.2	25.1	25.7	24.3	25.3	24.9	25.8	26.3
12H	23.8	24.7	24.3	25.2	25.8	24.5	25.3	25.0	25.8	26.4
4H 2H	22.1	23.2	22.6	23.7	24.2	22.8	23.8	23.3	24.3	24.9
3H	23.4	24.3	23.9	24.8	25.4	24.0	24.9	24.6	25.4	26.0
4H	23.9	24.7	24.4	25.2	25.8	24.6	25.3	25.1	25.9	26.5
6H	24.3	25.0	24.9	25.6	26.2	25.0	25.7	25.6	26.3	26.9
8H	24.5	25.1	25.1	25.7	26.3	25.2	25.8	25.8	26.4	27.0
12H	24.6	25.2	25.2	25.8	26.4	25.4	25.9	26.0	26.5	27.1
8H 4H	24.1	24.7	24.6	25.3	25.9	24.7	25.4	25.3	25.9	26.5
6H	24.6	25.1	25.2	25.7	26.4	25.3	25.9	25.9	26.5	27.1
8H	24.8	25.3	25.5	25.9	26.6	25.6	26.1	26.2	26.7	27.3
12H	25.1	25.5	25.7	26.1	26.8	25.9	26.3	26.5	26.9	27.6
12H 4H	24.1	24.6	24.6	25.2	25.8	24.7	25.3	25.3	25.9	26.5
6H	24.6	25.1	25.3	25.7	26.4	25.4	25.8	26.0	26.4	27.1
8H	24.9	25.3	25.5	25.9	26.7	25.7	26.1	26.3	26.7	27.4
CIE190: 2010										

CIE190: 2010  
Area: 0.1392 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

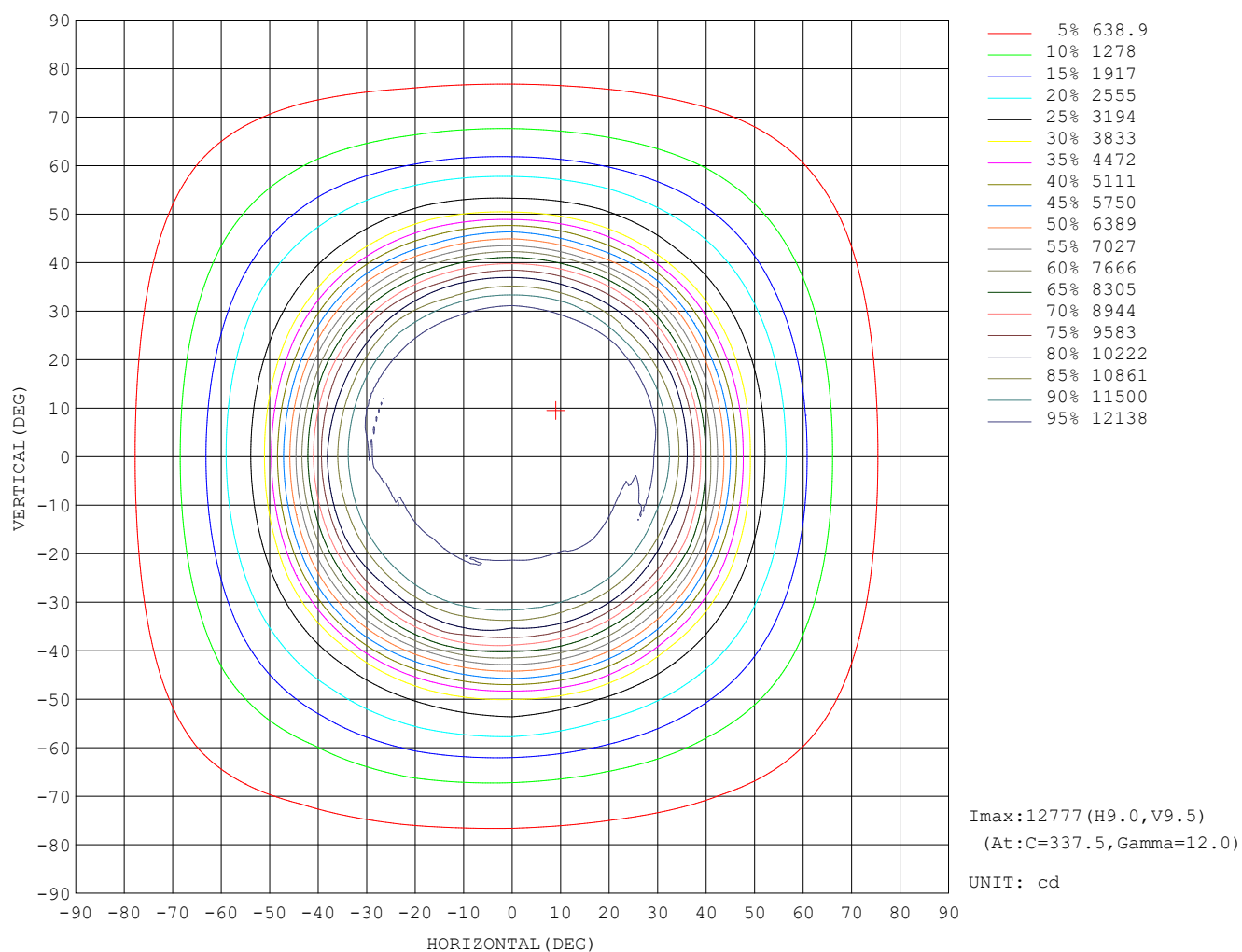
## UTILIZATION FACTORS TABLE

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	65	56	50	64	55	50	44
0.80	75	66	60	74	65	60	72	64	59	53
1.00	83	74	68	81	73	67	79	73	66	60
1.25	89	81	75	87	80	74	84	78	73	66
1.50	93	85	80	91	84	79	88	82	77	70
2.00	99	92	87	97	90	85	92	87	83	75
2.50	102	95	91	99	94	89	95	90	87	78
3.00	104	99	94	102	97	93	97	93	90	80
4.00	107	103	99	105	101	97	100	96	94	83
5.00	109	105	102	106	103	100	101	98	96	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: ZZX  
 Test Date: 2023-07-17

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4556]  
 Remarks:

## ISOCANDELA DIAGRAM

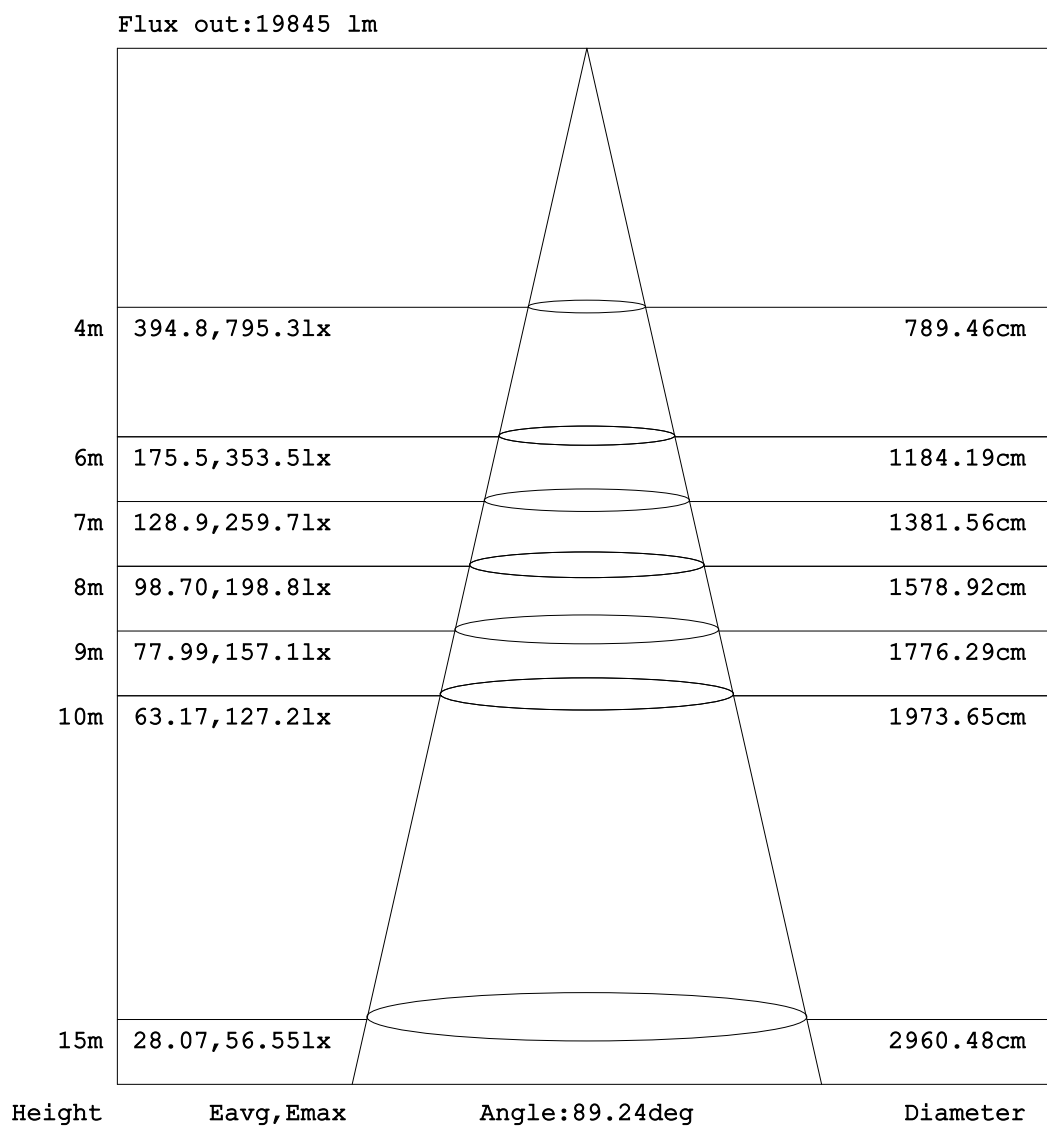


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:



## AAI Figure



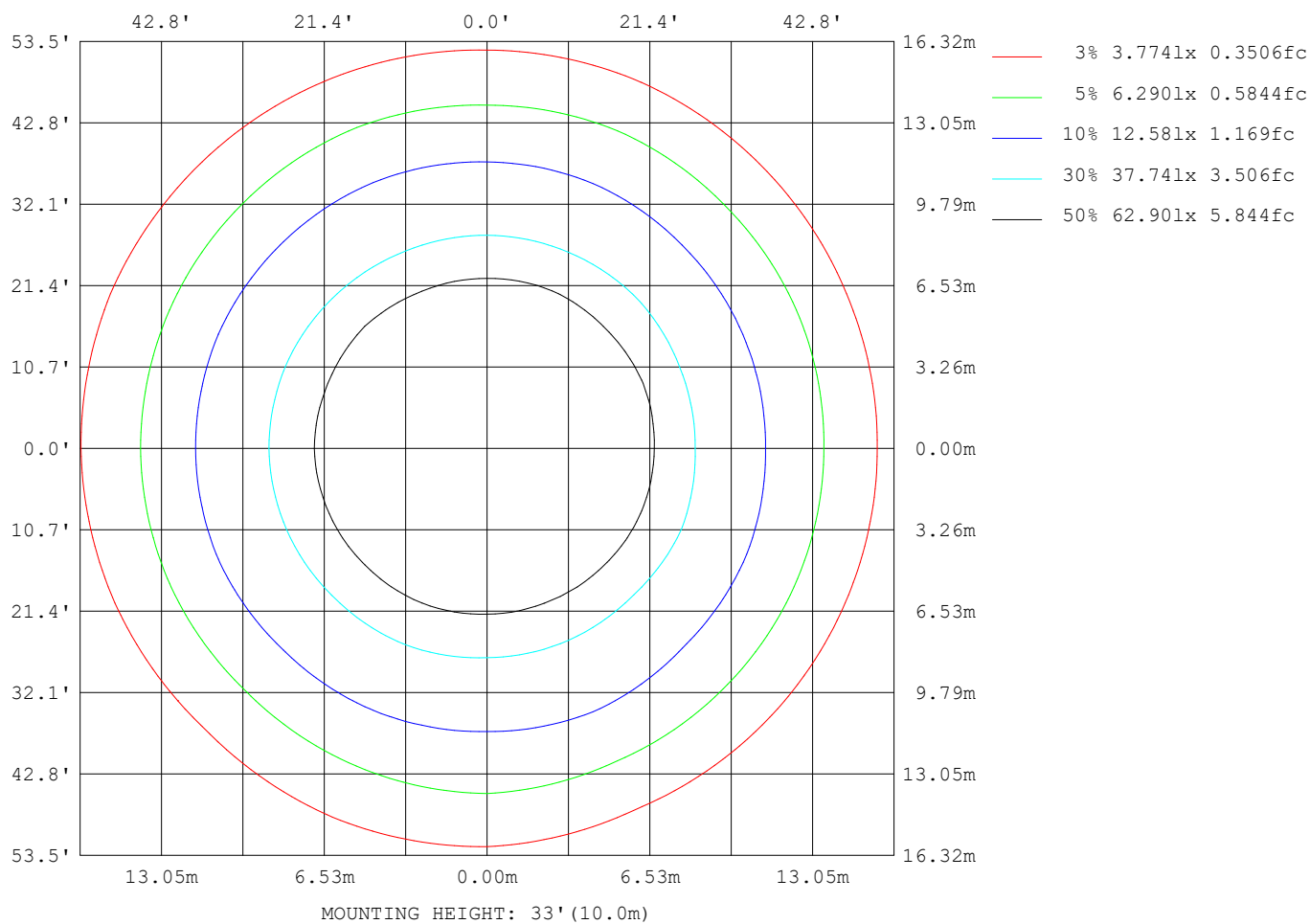
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

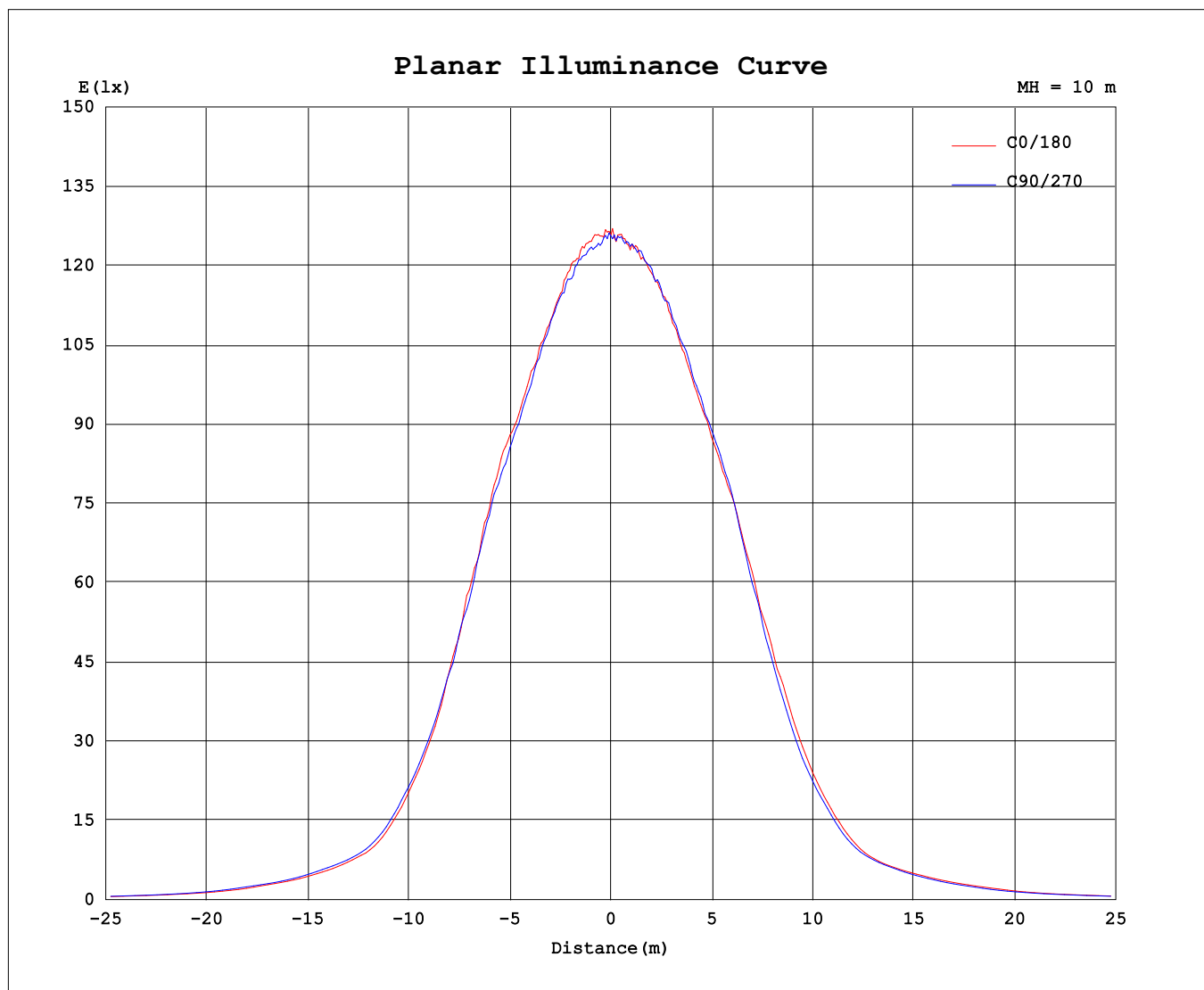
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks: